

- Fig. 14. *Euptychia fumata*, P. Z. S. 1867, p. 109.
 15. — *byses*, P. Z. S. 1866, p. 490.
 16. — *periphias*, P. Z. S. 1866, p. 465.
 17. — *vestigata*, P. Z. S. 1867, p. 105.
 18. — *liturata*, P. Z. S. 1867, p. 107.
 19. — *vesper*, P. Z. S. 1867, p. 108.
 20. — *pronophila*, P. Z. S. 1867, p. 107.
 21. — *armilla*, P. Z. S. 1867, p. 108.

4. Descriptions of Thirty-two New Species of Marine Shells
 from the Coast of New South Wales. By GEORGE
 FRENCH ANGAS, F.L.S., C.M.Z.S., &c.

(Plate XIII.)

1. TROPHON HANLEYI, n. s. (Pl. XIII. fig. 1.)

Shell fusiform, pale brown, with a narrow white band at the angle of the whorls; spire turreted; whorls angulated at the upper part, longitudinally distantly plicate, transversely ribbed, the ribs somewhat stronger on the plications and closely elevated scaled throughout, the last whorl produced into a moderately long open recurved beak; aperture small; columella arcuate, smooth, whitish; outer lip angulated near the middle, thin, crenated at the edge, and slightly dentated within. Length 1 inch 2 lines, breadth 6 lines.

Adhering to the under surface of rocks at low water, Port Jackson (*Coll. Angas*).

2. CANTHARUS (TRITONIDEA) UNICOLOR, n. s. (Pl. XIII. fig. 2.)

Shell fusiform, thick, longitudinally plicately ribbed and transversely closely ridged, pale brown or whitish throughout; spire elevated; whorls seven, rounded; aperture ovate, ending in front in a short slightly recurved canal; columella arched; outer lip crenulated, thickened externally, and denticulated within. Length 6 lines, breadth 2 lines.

Found under stones at very low spring tides, at Camp Cove, Port Jackson (*Coll. Angas*).

3. PURPURA (STRAMONITA) NEGLECTA, n. s. (Pl. XIII. fig. 3.)

Shell angularly ovate, longitudinally nodosely plicate, transversely rather broadly ribbed; ribs distant, the interstices filled with rows of muricated scales, pale brown, the transverse ribs yellowish spotted with black; spire elevated; whorls five, angulated, concave above; aperture angulately oval; columella arcuated and a little flattened; outer lip thin, simple; interior violet. Length 9 lines, breadth $4\frac{1}{2}$ lines.

Found under stones at low water outside Port Jackson Heads (*Coll. Angas*).

4. MITRA (CAUCILLA) STRANGEI, n. s. (Pl. XIII. fig. 4.)

Shell ovately fusiform, rather thin, white, spirally closely ridged,

the ridges on the last whorl alternately larger and smaller, crossed by very fine longitudinal lines; spire elevated; whorls eight, slightly rounded; aperture rather more than half the length of the shell, narrow; columella three-plaited, the upper plait the largest; outer lip thin. Length 7 lines, diam. $2\frac{1}{2}$ lines.

Dredged in Middle Harbour, Port Jackson (*Coll. Angas*).

Several specimens of this pretty little *Mitra* were also obtained at Moreton Bay by the late Frederick Strange, to whose memory I have dedicated it.

5. COLUMBELLA (MITRELLA) ALBOMACULATA, n. s. (Pl. XIII. fig. 5.)

Shell elongately fusiform, rather solid, whitish, tinged with violet; lower portion of the whorls faintly reticulated with chestnut, with broad brown flames, thickly spotted with white below the sutures; whorls eight, flattened, basal whorl spirally ridged anteriorly; aperture rather narrow, two-fifths the entire length of the shell; columella arcuated, callous, transversely finely ridged in front; outer lip sinuated posteriorly, edge thin, thickened exteriorly, and denticated within. Length $5\frac{1}{2}$ lines, breadth 2 lines.

Under stones at low water, Port Jackson (*Coll. Angas*).

6. ÆSOPUS FILOSUS, n. s. (Pl. XIII. fig. 6.)

Shell elongately fusiform, pale fulvous or brown, with spots of darker brown and white below the sutures; spire acuminately turreted, apex a little obtuse; whorls eight, slightly convex, transversely finely sulcated throughout, last whorl nearly one-third the length of the shell; aperture moderate, ovate; columella arched; outer lip slightly thickened externally and denticulated within. Length $5\frac{1}{4}$ lines, breadth 2 lines.

Dredged in Port Jackson in 5 fathoms (*Coll. Angas*).

7. ACUS (ABRETIA) BICOLOR, n. s. (Pl. XIII. fig. 7.)

Shell subulate, whitish, the lower half of the last whorl chocolate-brown; whorls nine, nearly straight, more or less nodulous below the sutures, thin, longitudinally ribbed, or very finely striated, the ribs on the last whorl ceasing at the periphery; columella arcuate; aperture small, ovately lunar; outer lip thin, rounded. Length 8 lines, breadth 2 lines.

Dredged in Middle Harbour, Port Jackson (*Coll. Angas*).

8. ACUS (ABRETIA) ASSIMILIS, n. s. (Pl. XIII. fig. 8.)

Shell elongately fusiform, rather solid, light fulvous, stained at the lower part of the whorls with purplish chocolate; whorls nine; a little rounded, longitudinally ribbed; ribs rather broad, arcuate, ceasing at the periphery of the last whorl, the interstices here and there irregularly longitudinally striated; columella arcuate, slightly twisted at the base; aperture small, contracted towards the front; outer lip thin, simple. Length $5\frac{1}{2}$ lines, breadth $1\frac{1}{2}$ line.

Dredged in Port Jackson (*Coll. Angas*).

9. *TURBONILLA NITIDA*, n. s. (Pl. XIII. fig. 9.)

Shell sharply subulate, turreted, rather thin, white, shining; whorls thirteen, slightly convex, longitudinally prominently rather broadly ribbed, interstices smooth, narrow, ribs abruptly ceasing at the periphery of the last whorl; sutures impressed; aperture small, subquadrate; columella straight; outer lip thin, a little produced in front. Length 5 lines, breadth 1 line.

Dredged in Port Jackson (*Coll. Angas*).

10. *ODOSTOMIA LÆVIS*, n. s. (Pl. XIII. fig. 10.)

Shell ovately conical, thin, subdiaphanous, shining, white; whorls seven, a little rounded, last whorl not quite half the length of the shell; sutures channelled; aperture oblong-ovate, a little produced anteriorly; columella fold transverse and strongly developed; outer lip thin, acute, simple. Length $3\frac{1}{2}$ lines, breadth $1\frac{1}{2}$ line.

Dredged in deep water in Port Jackson (*Coll. Angas*).

11. *ODOSTOMIA LACTEA*, n. s. (Pl. XIII. fig. 11.)

Shell elongate, rather thin, smooth, white, shining; whorls six, flattened; sutures impressed; aperture small, ovate, somewhat produced anteriorly, one-third the length of the shell; columella-fold strong and a little oblique; outer lip thin, simple. Length 3 lines, breadth 1 line.

Dredged in deep water, Port Jackson (*Coll. Angas*).

12. *ODOSTOMIA (PARTHENIA) PASCOEI*, n. s. (Pl. XIII. fig. 12.)

Shell ovately conical, rather thin, rimate, pale yellowish brown; whorls seven, longitudinally rather closely plicate, plicæ evanescent on the basal portion of the last whorl, transversely finely striated; whorls eight, somewhat convex, last whorl rather ventricose; sutures distinct; aperture ovate; columella-plait moderate, transverse, situated a little within the aperture; outer lip rounded, simple. Length 4 lines, breadth $1\frac{1}{2}$ line.

Dredged in deep water, Port Jackson (*Coll. Angas*).

13. *ODOSTOMIA (PARTHENIA) KREFFTI*, n. s. (Pl. XIII. fig. 13.)

Shell fusiformly turreted, moderately solid, very narrowly rimate, white; whorls nine, strongly and closely longitudinally plicate, plicæ rounded, scarcely evanescent at the base of the last whorl, very finely transversely striated, last whorl moderate; sutures channelled; aperture small, ovate; columella-plait transverse, rather conspicuous. Length $3\frac{1}{4}$ lines, breadth 1 line.

Port Jackson, deep water (*Coll. Angas*).

14. *STYLOPTYGMA AURANTIACA*, n. s. (Pl. XIII. fig. 14.)

Shell acutely elongate, rather thin, shining, fulvous orange, with a pale band next below the sutures, darker on the lower whorls, fading into white on the upper whorls, which are glossy and sub-transparent; spire turreted; whorls eight, very slightly convex,

finely transversely striated; sutures impressed; aperture small, narrowly ovate, somewhat produced anteriorly; columella nearly straight, whitish, the fold very small and rudimentary; outer lip simple. Length 3 lines, breadth $\frac{3}{4}$ line.

Dredged in deep water, Port Jackson (*Coll. Angas*).

15. DRILLIA COXI, n. s. (Pl. XIII. fig. 15.)

Shell acuminate turreted, pale fulvous; whorls nodosely angulated at the upper part, and encircled with rather distant somewhat nodulous raised striæ, between which are numerous fine thread-like lines; canal short, straight; outer lip thin; sinus moderate. Length 9 lines, breadth 3 lines.

Dredged in Port Jackson (*Coll. Angas*).

16. DRILLIA METCALFEI, n. s. (Pl. XIII. fig. 16.)

Shell acuminate clavate, pale fulvous; whorls with a fillet of slanting plicate nodules next the sutures, angulated with sharp plicate nodules at the upper part, longitudinally rather sharply ribbed, and cancellated with irregular raised striæ, which are broader at the lower part of the last whorl, where the longitudinal ridges terminate in a band of small nodules; canal short; outer lip thin; sinus rather broad and deep. Length $7\frac{1}{2}$ lines, breadth $2\frac{1}{4}$ lines.

Dredged in Port Jackson (*Coll. Angas*).

17. CLATHURELLA ZONULATA, n. s. (Pl. XIII. fig. 17.)

Shell fusiform, rather solid, light brown, banded with ashy grey below the sutures and at the base of the last whorl, encircled with rather distant fine brown lines, longitudinally nodosely plicate, and transversely closely ribbed; spire elevated; whorls seven, convex; aperture narrow; inner lip arcuate; outer lip thin, thickened externally; sinus moderate. Alt. 4 lines, diam. $1\frac{1}{2}$ line.

Dredged in Port Jackson in deep water (*Coll. Angas*).

18. ALABA PHASIANELLA, n. s. (Pl. XIII. fig. 18.)

Shell elongately conical, thin, semipellucid, whitish, encircled by several thread-like, more or less interrupted, brown lines, with a band of alternate white and brown spots above the sutures, and a few short longitudinal brown flames beneath them; whorls nine, nearly flat; aperture ovate; columella arcuate; outer lip simple, acute. Alt. 3 lines, diam. 1 line.

Dredged in Port Jackson (*Coll. Angas*).

19. RISSOINA VARIEGATA, n. s. (Pl. XIII. fig. 19.)

Shell elongate, solid, white, sometimes broadly banded with livid purple, or ornamented with zigzag chestnut markings; whorls seven, slightly convex, longitudinally plicate, plicæ ceasing at the periphery of the last whorl, transversely finely closely striate; sutures distinct; aperture semilunar, chestnut within; inner lip moderately callous;

PROC. ZOOL. SOC.—1867, No. VIII.

outer lip thickened, white, a little sinuated posteriorly. Length 4 lines, breadth $1\frac{1}{2}$ line.

Port Jackson, deep water (*Coll. Angas*).

20. *RISSOINA TURRICULA*, n. s. (Pl. XIII. fig. 20.)

Shell elongately turreted, rather solid, whitish; whorls eight, slightly rounded, longitudinally strongly plicate, angulated at the sutures, the base of the last whorl furnished with a prominent spiral rib; aperture ovate; outer lip thickened and strongly sinuate. Length $2\frac{1}{2}$ lines, breadth $\frac{3}{4}$ line.

Port Jackson, deep water (*Coll. Angas*).

21. *RISSOINA SMITHI*, n. s. (Pl. XIII. fig. 21.)

Shell narrowly elongate, solid, whitish, sometimes banded with pale brown below the sutures; whorls seven, a little convex, longitudinally strongly and rather distantly plicate, the plicæ curved above and nearly obsolete at the base of the last whorl, transversely very finely and closely striated; aperture semilunar, sometimes violet within; outer lip white, thickened, and moderately sinuated behind. Length 3 lines, breadth 1 line.

Port Jackson (*Coll. Angas*).

22. *RISSOINA CINCTA*, n. s. (Pl. XIII. fig. 22.)

Shell small, narrowly elongate, rather solid, white, zoned with brown; whorls seven, convex, longitudinally distantly plicate, plicæ evanescent on the last whorl, transversely lirate throughout; aperture subovate; outer lip a little thickened, and slightly sinuate behind. Length $2\frac{1}{4}$ lines, breadth $\frac{3}{4}$ line.

Port Jackson, deep water (*Coll. Angas*).

23. *CAPULUS VIOLACEUS*, n. s. (Pl. XIII. fig. 23.)

Shell elevated, laterally compressed, recurved, oblong-ovate at the base, radiately striated; apex free, inclined to the right; internally with a very narrow rib, rounded at the edge, situated in the cavity of the shell and extending on either side nearly to the middle of the aperture; interior violet. Length 8 lines, breadth 3 lines.

(*Coll. Angas*.)

A single example of this curious shell was obtained by myself adhering to the edge of a stone at low-water mark at Long Bay, outside Port Jackson Heads.

24. *EUTROPIA (TRICOLIA) ROSEA*, n. s. (Pl. XIII. fig. 24.)

Shell minute, thin, shining, ovate, of a uniform deep rose-colour throughout; whorls four, somewhat flattened at the upper part, then convex; columella white; edge of the outer lip stained with a line of dark rose. Length $1\frac{1}{2}$ line, breadth 1 line.

From shell-sand in Coodgee Bay, New South Wales (*Coll. Angas*).

25. *EUTROPIA (TRICOLIA) VIRGO*, n. s. (Pl. XIII. fig. 25.)

Shell minute, rather thin, globosely conical, white; whorls four, the last whorl ventricose, and painted with fine undulating pink lines, darker at the sutures, where they are separated by several broad descending white flammules; the lower portion of the last whorl encircled by a row of white spots; columella slightly excavated, white. Length 1 line, breadth $\frac{3}{4}$ line.

From shell-sand, Coodgee Bay, New South Wales (*Coll. Angas*).

26. *GIBBULA COXI*, n. s. (Pl. XIII. fig. 26.)

Shell orbicularly conical, moderately umbilicated, rather solid, whitish, marbled with olive and pink, with a few broad pure white flames descending from the sutures and interrupted on the keels with brownish red; base reticulated with grey and minutely spotted with red; spire conical; whorls five, angular, with two prominent rounded keels, one next the suture, concave between the suture and the upper keel, and a little concave between the keels, finely spirally ridged and decussated with exceedingly fine and close oblique longitudinal lines; base convex, finely concentrically ridged and decussated like the whorls, the ridges increasing in size towards the umbilicus. Alt. 4 lines, diam. 4 lines.

Dredged in Port Jackson (*Coll. Angas*).

I have named this elegant little *Gibbula* in honour of Dr. Cox of Sydney, to whom we are indebted for the descriptions of many new species of Australian land shells.

27. *GADINIA CONICA*, n. s. (Pl. XIII. fig. 27.)

Shell convexly conical, white, strongly irregularly radiately ribbed; ribs about thirty-eight in number, concentrically ridged; apex sub-central; white within. Alt. $2\frac{3}{4}$ lines, length $3\frac{1}{2}$ lines, breadth 3 lines.

Coodgee Bay, outside Port Jackson Heads (*Coll. Angas*).

28. *LOPHYRUS SMARAGDINUS*, n. s. (Pl. XIII. fig. 28.)

Shell oblong-elliptic, elevated, most minutely punctured, dull bluish green, delicately freckled with olive, the hinder edges of the valves ornamented with very small white spots bordered with olive; the terminal valves and lateral areas faintly concentrically striated, the central valves carinated, with the dorsal areas faintly transversely striated, the lateral areas slightly elevated; mantle-margin pale green, marbled with black, and covered with small smooth imbricated scales. Length 6 lines.

Port Jackson (*Coll. Angas*).

29. *ONITHOCHITON RUGULOSUS*, n. s. (Pl. XIII. fig. 29.)

Shell elongately ovate, a little narrowed in front, raised and carinated, pale yellowish brown, the central areas of the valves faintly spotted with olive, the outer edges bordered with green, upon which

and extending inwards are concentric waved bands of olive-brown darker at the margin; lateral areas not raised, divided from the dorsal areas by radiating nodulous ribs, transversely rugosely costate; dorsal areas finely longitudinally ridged; mantle brown, variegated with ash-colour and clothed with very minute chaff-like scales. Length 8 lines.

Port Jackson (*Coll. Angas*).

30. *TONICIA CARPENTERI*, n. s. (Pl. XIII. fig. 30.)

Shell ovate, elevately convex, carinated, ashy white, ornamented at the hinder edges of the valves with pale spots, the spaces between which are very dark olive melting into confused bands of a paler hue, which extend nearly across the valves; valves rostrate, undulately concentrically subimbricately sculptured throughout; the lateral areas not raised, but separated from the dorsal areas by an elevated rib; posterior valve strongly gibbous, the umbo almost terminal; mantle-margin brown. Length 9 lines.

Port Jackson (*Coll. Angas*).

31. *LEUCOTINA ESTHER*, n. s. (Pl. XIII. fig. 31.)

Shell ovate, rather solid, scarcely rimate, whitish; whorls five, transversely grooved and crossed with very fine longitudinal lines; aperture oblong-ovate, half the length of the shell; columella white, straight, parietal fold hardly visible. Length $2\frac{1}{2}$ lines, breadth $1\frac{1}{4}$ line.

Port Jackson, deep water (*Coll. Angas*).

32. *CHELIDONURA ADAMSI*, n. s. (Pl. XIII. fig. 32.)

Head furnished in front with a short silky fringe; mantle terminating behind in two long bifurcate filaments; foot elevated on each side, embracing the head and mantle, rounded both in front and behind; colour velvet-black, with a white crescent on the hinder part of the mantle; the head and the outer edge of the foot are bordered with a line of brilliant blue; a line of the same colour, bifurcated in front, extends down the back; and the posterior filaments are ornamented in the middle with a similar line; parallel with these blue lines, and at a short distance from them, are lines of a gold-colour; and spots of the same appear above the white crescent on the back, and at the bifurcation of the posterior filaments. Shell internal, very small, thin, flat, with the right border terminating in a point. Length 2 inches.

Found in a rock-pool at low water at Vaucluse Bay, Port Jackson.

This species may be identical with the individual alluded to by Quoy as having been met with at the Mauritius among numerous specimens of his *Bulla hirundinina*, but which was not described by him. I have named it in honour of my friend Mr. Arthur Adams, the founder of the genus *Chelidonura*.

DESCRIPTION OF PLATE XIII.

- Fig. 1. *Trophon hauleyi*, p. 110.
 2. *Cantharus (Tritonidea) unicolor*, p. 110.
 3. *Purpura (Stramonita) neglecta*, p. 110.
 4. *Mitra (Caucilla) strangei*, p. 110.
 5. *Columbella (Mitrella) ulbonaculata*, p. 111.
 6. *Æsopus filiosus*, p. 111.
 7. *Acus (Abretia) bicolor*, p. 111.
 8. ——— (*Abretia*) *assimilis*, p. 111.
 9. *Turbonilla nitida*, p. 112.
 10. *Odotomia levis*, p. 112.
 11. ——— *luctea*, p. 112.
 12. ——— (*Parthenia*) *puscoci*, p. 112.
 13. ——— (*Parthenia*) *kreffti*, p. 112.
 14. *Styloptygma aurantiaca*, p. 112.
 15. *Drillia coxi*, p. 113.
- Fig. 16. *Drillia metcalfei*, p. 113.
 17. *Clathurella zonulata*, p. 113.
 18. *Alaba phasianella*, p. 113.
 19. *Rissoina variegata*, p. 113.
 20. ——— *turricula*, p. 114.
 21. ——— *smithi*, p. 114.
 22. ——— *cincta*, p. 114.
 23. *Capulus violaceus*, p. 114.
 24. *Eutropia (Tricolia) rosea*, p. 114.
 25. ——— (*Tricolia*) *virgo*, p. 115.
 26. *Gibbula coxi*, p. 115.
 27. *Gadinia conica*, p. 115.
 28. *Lophyrus smaragdinus*, p. 115.
 29. *Onithochiton rugulosus*, p. 115.
 30. *Tonicia carpenteri*, p. 116.
 31. *Leucotina esther*, p. 116.
 32. *Chelidonura adamsi*, p. 116.

5. Notes on *Hyalonema lusitanicum*, and on the Genus in general. By Dr. J. E. GRAY, F.R.S., V.P.Z.S., &c.

Professor Bocage having most kindly presented to the British Museum a very beautiful specimen of *Hyalonema lusitanicum* from the coast of Portugal, I am enabled to state that I believe it to be a most distinct species from the *Hyalonema sieboldii* of Japan.

The bundle of spicules is much more slender, consisting of fewer spicules, and the spicules are very much longer than in any specimens I have seen from Japan; and the sculpture on the surface of the spicules is much more distinct and coarse than that on the Japan spicules of the same thickness. A Japan specimen of two-thirds the length, for example, would contain twice, if not three times, as many spicules, and the coil or rope-like axis would be more than twice the diameter.

The polypes on the bark are much smaller, oblong-oval, longer than broad, and more crowded together, and are not of the circular form, nor are they nearly so much raised in the dry contracted state as those of the usual dry Japan specimens.

As remarked by Professor Bocage, the lower, more slender part of the axis is entirely covered with the bark, which is crowded all over to the very end of the base with the contracted polypes. The upper half has lost its bark.

As in the Japan species, the spicules of the coil of the upper part of the specimen are thicker than near the base; indeed the spicules of both species gradually increase from the base to near the upper end; so there can be no doubt that the part covered with the bark is the slender base of the spicules, which in the Japan species is naked and is immersed in the sponge.

The examination of Professor Bocage's specimens has satisfied